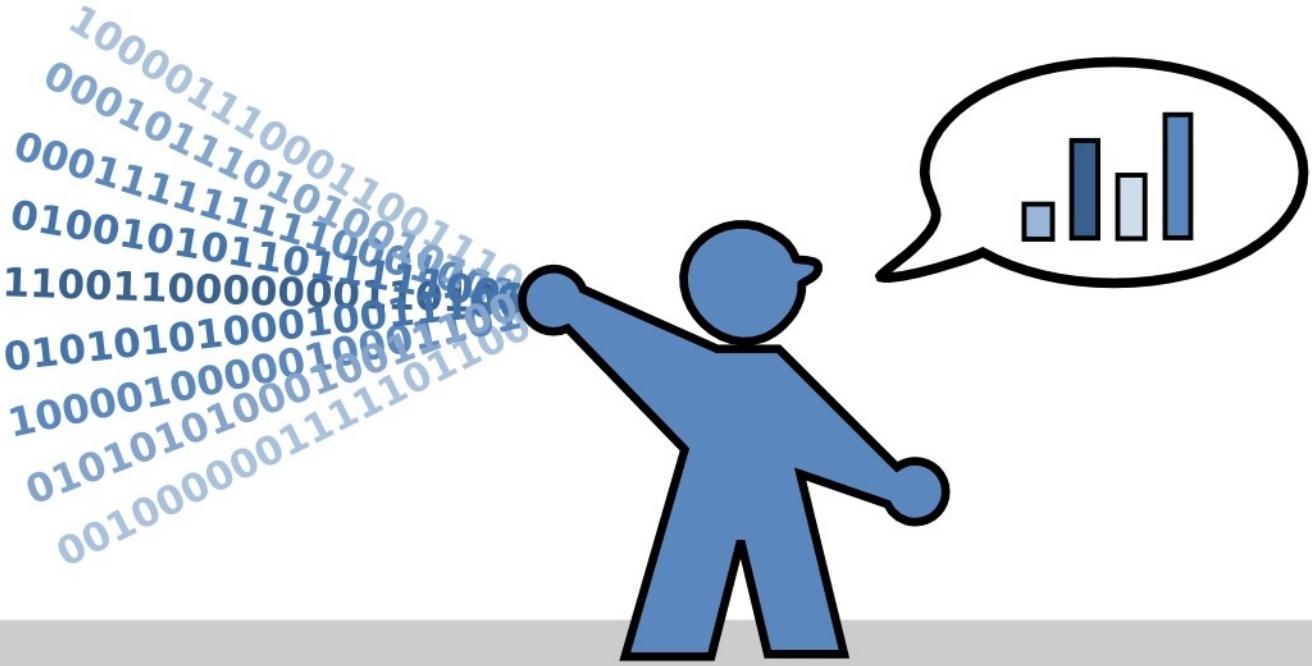
The Speech Project

free educational materials for free speakers

5 Speech Projects for Data Scientists

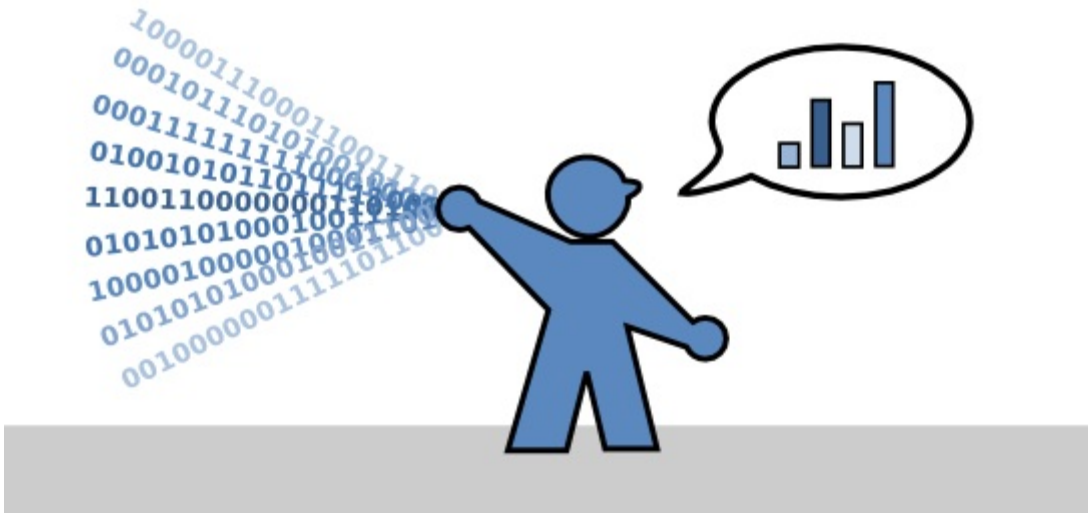


version 0.1, released September 20th, 2016

written by Kristian Rother

Table of Contents

Speech Projects for Data Scientists



Who is this workbook for?

As a Data Scientist you are asked to present your findings in a convincing and effective manner to various cross-functional team members and decision makers. You are a key player connecting the fields of programming, statistics and business thinking. Communicating and presenting your data analytics results is a important skill that can be trained like a muscle. This workbook contains five exercises to improve your communications skills as a Data Scientist.

The speech projects

This workbook contains five speech projects that will train your communication skills and excel your data science career:

1. The Lightning Talk
2. The Live Demo
3. The Educational Session
4. Selling an Idea
5. The Project Presentation

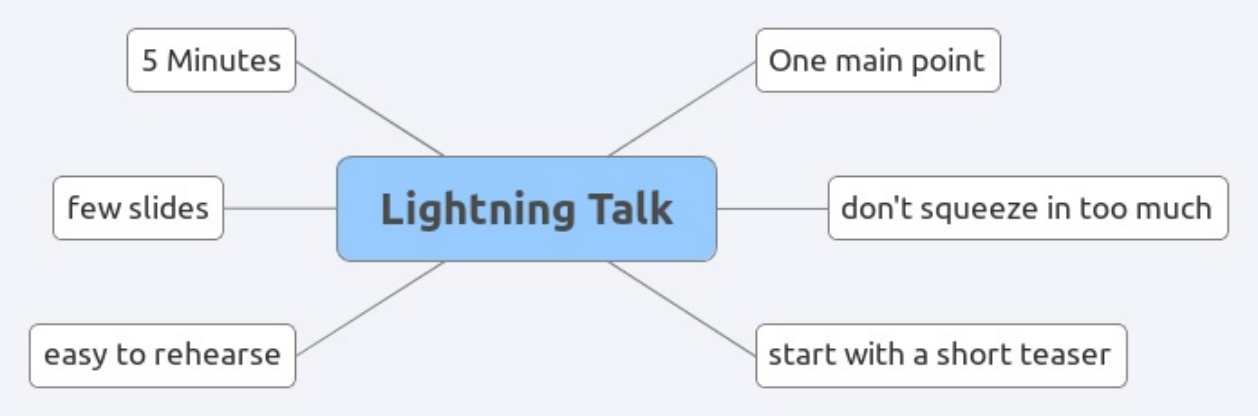
For your learning sucess, **positive, supportive evaluations** are key. The speeches are best executed in a mutually supportive environment: a learners meetup, a Data Science Boot Camp or a professional speaking network, such as Agora Speakers. As long as you make sure you have supportive people for feedback around, it can work anywhere.

License

Contact

krother@academis.eu

The Lightning Talk



Your Goal

Present a tool or technology briefly to other Data Scientists. Choose a tool that you are familiar with. It could be a mathematical concept, a programming language or library, a web tool or even one of your own projects.

The value of the lightning talk is its brevity. Your project is to summarize the essence of the tool: What is it good for, how does it look like, what pros and cons are there. If you want to show an example, choose one.

Time

5 minutes

Questions for evaluators

- Which part of the talk did you find the most interesting?
- Where there any parts that you found irrelevant?
- Did the speaker limit himself to one core idea, or were multiple ones covered.
- How did the speaker manage time during the talk?
- What could the speaker do differently?
- How would you summarize the core message in your own words?

Extra Material

- Giving a good lightning talk by the Software Sustainability Institute
- How to Give a Great Ignite Talk by Scott Berkun
- 16 Ways to Prepare for a Lightning Talk by Kathleen Garvin

Example Talks

- How to Give a Lightning Talk Video by Steve Klabnik
- Less Code == More Software example talk by Peter Sommerland

The Live Demo

Your Goal

Show how to use a technology or process to an audience of Data Scientists using a laptop or whiteboard.

Using a laptop for a live demonstration is a small but tricky project. Interacting on a laptop during your presentation makes it difficult to establish and maintain direct contact with your audience (dialog, eye contact).

Using a whiteboard to guide your audience through the steps of a process (e.g. a calculation or algorithm) makes it easier to maintain contact. The main project here is to write legibly and to talk to the audience instead of the board.

Prepare by thinking through how you can organize your demonstration in a way that engages the audience and avoids technical problems.

Time

5-7 minutes

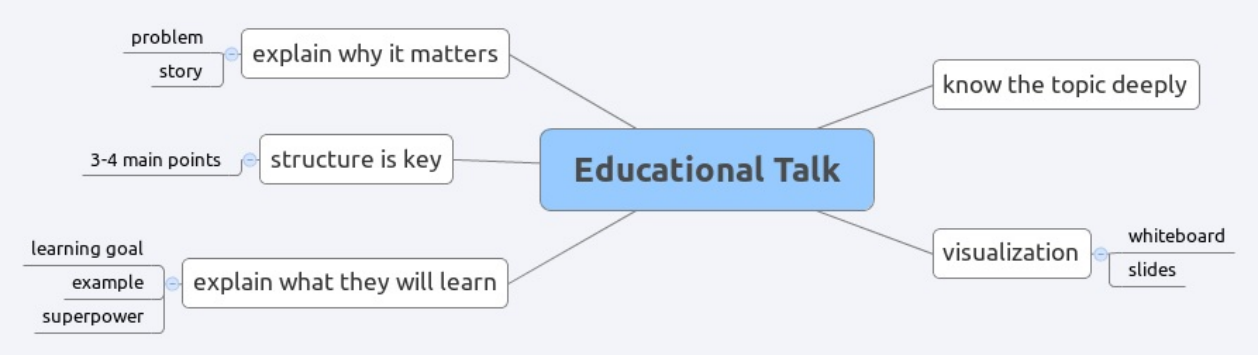
Questions for evaluators

- What did you like most about the presentation?
- How did the speaker maintain contact with the audience?
- How did the speaker prepare to handle technical difficulties?
- How did visualization help your understanding?
- What could the speaker do differently?
- What did you learn?

Extra Material

- Tips for giving a live software demo by Philip Guo

The Educational Session



Your Goal

Give an informational talk to an audience of Data Scientists about a data science method, concept or technology you are familiar with. In contrast to the lightning talk, this presentation should go into details. Focus on finding good visualizations that illustrate your message. These could include images to evoke emotions, charts and diagrams, data samples or even animations. Of course, you may decide not to use slides at all and to use a whiteboard (or something else) instead.

The key to a good informational talk is to state clearly at the beginning *why* your audience should care and *what* they will learn. You can achieve this by using an illustrative example, a little story or by telling people what *"superpower"* they are going to learn.

Use an apropppriate opening and finish with a clear conclusion repeating your take home message.

Time

15-20 minutes

Questions for evaluators

- How did the speaker show that the topic is *relevant* and *interesting*?
- How did the speaker structure the content?
- Was the density of information well-chosen?
- How did visualization help your understanding?
- What could the speaker do differently?
- What did you learn?

Example Talk

- Global population growth, box by box TED talk by Hans Rosling

Selling an Idea

Your Goal

Persuade a mixed audience (technical and non-technical people) to adopt a certain point of view. It could be to use a certain technology, believe an interpretation or even make a financial investment.

You may already have experienced that in real-world business, this is a frequent type of presentation. At the same time, *selling* is very different from *putting the facts on the table*. A viable strategy to sell an idea successfully is to engage your audience emotionally in the beginning, and then move quickly to support your point with facts.

One possible strategy is to use the **AIDA** schema:

1. **Attention**: Evoke a positive response in the first minute.
2. **Interest**: Convince the audience why the presentation is relevant to them.
3. **Desire**: Support your point by facts and details, slowly building up a real demand for what you are *"selling*".
4. **Action**: At the end, state what specific step your audience could take.

The best persuasive presentations use stories. A story could be an authentic personal experience, or it could be a problem-solution structure that you use to illustrate your point. As a rule of thumb, stories with very few persons do a better job at selling than those in which a bulk of people appears.

If you are presenting to decision makers, always leave enough room for them to make the decision to look like their own.

Time

5-7 minutes

Questions for evaluators

- What did the speaker do to *spark interest* in the audience?
- What did the speaker do to demonstrate *relevance* of the problem?
- What did the speaker do to build *credibility*?
- Did the speaker propose a *small and specific next step*?
- What could the speaker do differently?
- Did the speaker convince you?

Extra Material

- A sale is a love affair TEDx talk by Jack Vincent

The Project Presentation

Your Goal

Present a Data Science project you have done to a mixed technical and non-technical audience. Describe the relevance of the project, e.g. a business case with projected cost vs. gain for a company, or the value for a person. Cover the data, the technologies used, the overall project structure, the results and your interpretation. Use visualizations to illustrate your points. Choose a clear structure consisting of 3-4 major parts that are clearly discernible. In a nutshell, use everything you learned in the previous four projects.

Your project presentation becomes unique if you include your motivation behind the project. Why did you choose this project? Why did you choose those technologies? It should become clear that you are the best possible person for this project.

Time

20 minutes + 5 minutes Q & A

Questions for evaluators

- What did you like about the presentation?
- How was the presentation structured?
- Did the presentation appear well-prepared?
- Did the presenter appear well-prepared?
- How did the presenter handle the Q & A session?
- What could the speaker do differently?
- Would you hire the speaker?

Example Talk

- When is it Good to be Bad? PyCon 2016 talk by Wendy Grus